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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/729,238	12/05/2003	Shouguan Huo	87184AEK	9195

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Paul A. Leipold  
Patent Legal Staff  
Eastman Kodak Company  
343 State Street  
Rochester, NY 14650-2201

EXAMINER	
GARRETT, DAWN L	
ART UNIT	PAPER NUMBER
1774	

DATE MAILED: 03/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/729,238

**Applicant(s)**

HUO ET AL.

**Examiner**

Dawn Garrett

**Art Unit**

1774

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9, 13, 14, 18-26, 28 and 29 is/are rejected.
- 7) ☒ Claim(s) 10-12, 15-17 and 27 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 1-30-2004.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claim 26 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. It is not seen where the specification describes or sets forth a fluorescent white light emitting material that alone emits white light. The specification does disclose the mixture of various colored materials to achieve white light at page 46. Clarification is required.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 3 and 18-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. In claim 3, the “compound containing two or more complexes” is unclear. It is unclear what comprises the further complexes. For example, it is unclear if the further complexes are attached to the same metal atom of the initial complex or if additional complexes contain further metal atoms. In addition, it is unclear if the further complexes would include further ligands

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attached to the same metal atom of the initial complex. Clarification and/or correction are required.

6. Claims 18-20 are drawn to "R" variables; however, their parent claim 13 does not set forth "R" variables. Accordingly, the meaning of claims 18-20 is not understood. It appears claims 18-20 may have been intended to depend from claim 15. Correction is required.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-9, 13, 14, 21-23, 28 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Igarashi (US 2001/0019782) in view of Williams et al., Inorganic Chemistry, (2003), Vol. 42, pages 8609-8611 (published November 2003). Igarashi teaches light-emitting devices comprising organometallic light emitting compounds (see par. 10 and 11). The light-emitting device is preferably a device comprising a transition metal complex, preferably an iridium complex or platinum complex (see par. 99). Igarashi fails to teach the use of the specific luminescent platinum complex recited in claim 1. Williams et al. teach in analogous art a luminescent platinum compound according to the claim 1 description (see page 8609, lower second column). Williams et al. further teaches the compound may be applied to electroluminescent applications (see page 8611, second full paragraph, second column). With regard to claims 5 and 9, "L" is a chlorine atom. It would have been obvious to one of ordinary skill in the art at the time of the invention to have used the luminescent platinum compound

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taught by Williams in the Igarashi device, because Igarashi teaches transition metal complexes are desired in the light emitting layer. Igarashi teaches forming the light emitting layer with a mixture of hole injecting material PVK, electron injecting material PBD, and the organometallic compounds in an amount of less than 50% of the total weight of the light emitting layer (see page 28, comparative example 1 and example 1) with regard to claims 21-23

9. Claims 24 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Igarashi (US 2001/0019782) in view of Williams et al., Inorganic Chemistry, (2003), Vol. 42, pages 8609-8611 (published November 2003) in further view of Ogura et al. (US 5,283,132).

Although Igarashi discloses the red, blue and green emitting devices are known in the art (see par. 5), Igarashi fails to disclose a white light emitting device. Ogura et al. teaches in analogous art that it is known to combine different colored fluorescent materials in order to achieve white light. It would have been obvious to one of ordinary skill in the art at the time of the invention to have combined other colored fluorescent light emitting substances in the device taught by Igarashi to achieve white light, because it is known in the art to combine colors to make white light and white light is a desirable feature of electroluminescent displays.

10. Claims 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Igarashi (US 2001/0019782) in view of Williams et al., Inorganic Chemistry, (2003), Vol. 42, pages 8609-8611 (published November 2003) in further view of Fukuoka et al. (US 2002/0168544). Igarashi fails to teach the device is white light emitting. Fukuoka et al. teaches white light is highly desired in the art and can be achieved by attaching a color filter to a display apparatus (see par. 5). It would have been obvious to one of ordinary skill in the art at the time of the invention

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to have included a filter with the Igarashi display, because Fukuoka et al. teaches white light is highly desired and can be achieved by attachment of a filter.

***Allowable Subject Matter***

11. Claims 10-12, 15-17, and 27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art fails to provide for a compound having a "L" group other than a halogen. In addition, the prior art fails to provide for an organometallic complex as recited in claim 1 further containing a quinolinyl or isoquinolinyl group as required by claim 27.

***Conclusion***

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The further prior art discloses organometallic compounds comprising metals other than Pt, Pd, and Ir.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dawn Garrett whose telephone number is (571)272-1523. The examiner can normally be reached Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached at (571) 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Dawn Garrett  
Primary Examiner  
Art Unit 1774

March 16, 2005